VALVTECHNOLOGIES

IsoTech®

Parallel Slide Gate Valves

IsoTech® Parallel Slide Gate Seat-Protected Valves

IsoTech®, ValvTechnologies' parallel slide gate (PSG) valve, addresses advanced design features and benefits and the need for true in-line valve reparability in large diameter, high-energy piping systems resulting from those enhancements. Specifically designed for steam and feedwater applications, IsoTech® valves provide bi-directional, zero-leakage using our exclusive HVOF RiTech® hardcoating processes.

- **4 - 36"**
- **ANSI/ASME Class 600 - 4500**
- **Four-year, zero-leakage warranty**
- **Delamination guaranty**

ValvTechnologies provides field proven solutions for severe service applications.

Common Features for the IsoTech® Valve

ValvTechnologies' valves are built to withstand the most severe applications. High-pressure, high temperature, high-cycle, abrasive, corrosive and caustic media have all been considered in the design of our product line.

1. Bonnet area

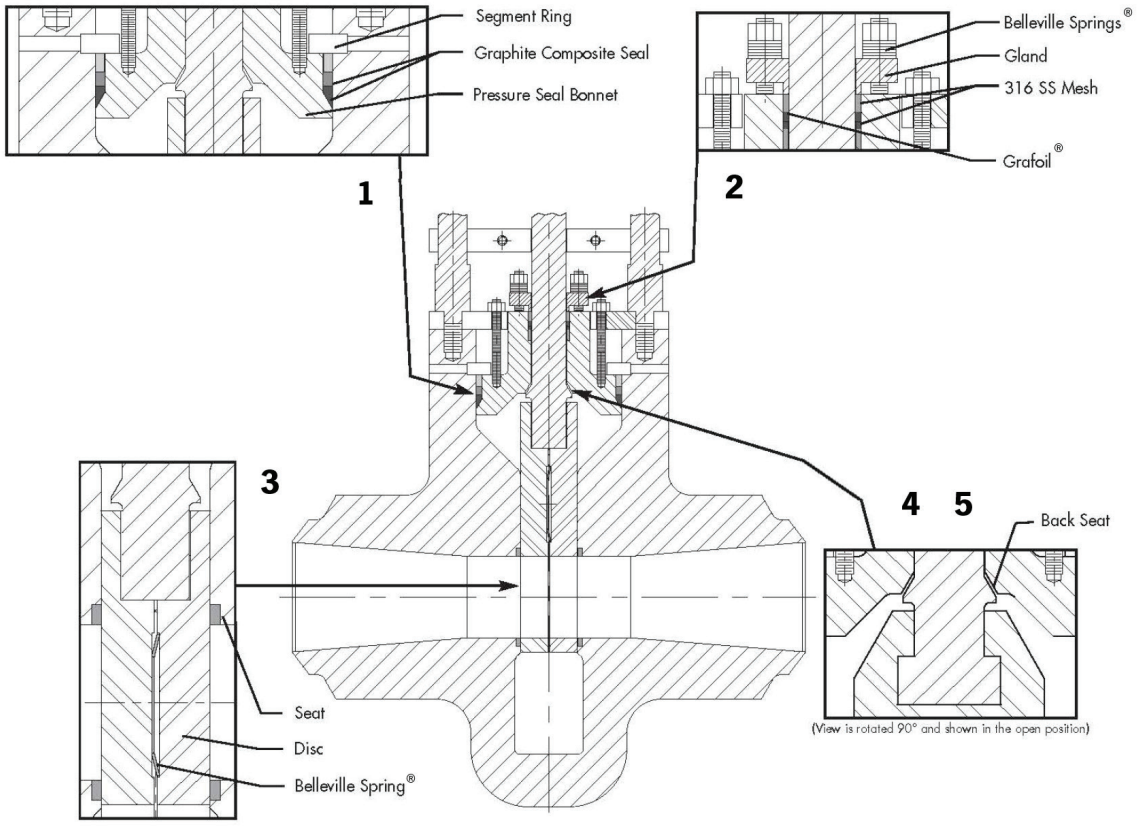
The pressure seal bonnet has been designed with a graphite composite seal. The bonnet has sufficient mechanical bolting to ensure the seal does not relax during periods when the system is not pressurized. In addition to the high reliability of the seal, the bonnet area has been designed to minimize the problems associated with maintenance on large gate valves by oversizing the segment rings. The valve has been designed so that the bonnet does not have to be forced in to the valve bonnet throat to allow for the segment rings to be removed. The large bolting used to ensure that the pressure seal is always loaded has also been utilized to enable simple disassembly of the bonnet once the easy-to-extract segment rings have been removed.

2. Gland area

The gland design is similar to the standard design employed throughout the ValvTechnologies' valve product line. It features additional graphite due to the sliding stem. The stem and gland are hardcoated ground and polished. The packing is secured by our standard four-bolt minimum live loaded packing system which has 316SS woven wire mesh anti-extrusion rings compressing a Grafoil® center ring to ensure a dependable seal.
been removed.

3. Discs and seat area

The valve discs and seats have been hardcoated with the same chrome carbide coating (68-72 RC) as its counterpart ValvTechnologies' metal seated ball valves. These seats are magnitudes harder than Stellite 6, (typically 34-38 RC), and are lapped to achieve zero-leakage under full differential pressure conditions, including vacuum. The large Inconel Bellville® spring load ensures a high initial seal with the line pressure increases assisting the sealing. The chrome carbide hardcoated web guide ensures the discs are kept parallel through the entire valve stroke, whether the valve is in the open or closed position, overcoming a common gate valve problem. As the valve is cycled under differential pressure, the extremely hard surfaces continually burnish and polish each other rather than scratching and galling.



4. Back seat area

The back seat is hardcoated with chrome carbide (typical hardness 68-72 RC) and polished to achieve zero-leakage.

5. T-slot and oversized diameter stem

Lends to the durability and robust design

Applications

IsoTech® valves are built to withstand the most severe applications. High-pressure, hightemperature, high-cycle, abrasive, corrosive and caustic media have all been considered in the design of our product line.

ValvTechnologies' design features are the implementation of extensive industry experience.

Fossil Fuel

- Boiler feed pump isolation
- Feedwater system isolation
- Feedwater bypass
- Main steam isolation
- HP bypass isolation
- RH bypass isolation
- HP heater isolation
- HP heater bypass
- LP heater isolation
- Hot reheat isolation
- Cold reheat isolation

Nuclear Generation

- Feedwater system isolation
- Feedwater bypass isolation
- Feedwater control valve isolation
- Emergency feedwater isolation
- HP heater isolation
- LP heater isolation
- Main steam isolation
- Reactor coolant pump isolation
- Steam generator isolation

*partial application list

Protecting Your Investment

Zero delamination +
Zero liberation +
Zero leakage =
Total turbine protection

ValvTechnologies' IsoTech® parallel slide gate valves are built specifically for modern day severe service power applications where temperatures exceed 1000˚F (538˚C). RiTech® 31 hardcoating technology is impervious to the effects of hightemperature cycling typically seen in combined cycle power plants in main steam isolation and hot reheat applications.

ValvTechnologies guarantees that the IsoTech® parallel slide gate valve, provided with our recommended RiTech® 31 hardcoating for use in high pressure and temperature, supercritical and ultra-super critical applications, will not delaminate for 10 years or 10,000 cycles, whichever comes first.

In the unlikely event the RiTech® 31 hardcoating delaminates from the substrate as described above, ValvTechnologies will provide the necessary labor, supervision and tooling to replace the defective components limited to the discs (2) and seat rings (2), either in situ or in a controlled shop environment.

This guaranty is in addition to our standard four-year, zero-leakage warranty.

ValvTechnologies' zero-leakage warranty plus the zero-delamination guaranty equals piece of mind

The Benefits of an IsoTech® Solution

IsoTech® zero-leakage valves are the premier solution where isolation is required for critical and severe service applications, providing increased safety and reliability, while reducing emissions, contributing to a cleaner environment.

Features	Benefits
The sealing surfaces coated with chromecarbide hardcoating to RC 72 hardness, then diamond lapped for a precision fit	The exceptional hardness and temperature ratings to 1800°F make our valves extremely resistant to attach of abrasives and fluids, particularly steam and flashing water.
Designed for ease of maintenance	The only requirement is for the disc to be flat against the seat. This is easily accomplished as there are no precise angles to maintain. Pressure seal bonnet has been designed to facilitate easy removal when necessary.
Protected seats	In the full open position, the flow through “conduit” is positioned precisely between the seats, eliminating turbulence and flow impingements on the seats. There is no gap between our conduit and the valve seat. Small gaps in our competitors’ valves cause extreme turbulence and in come cases cavitation.
Self-cleaning	Frequent valve usage polishes the surface for less torque and improved sealing. The high spring load insures contact throughout the stroke of the valve and prevents particulates migrating between the disc and seat also helps assist in the honing action.
Various flow control options, including a v-port orifice	This is ideal for warm-up and some bypass requirements
Stem extensions	Because of the low break-away and running torque, various stem extensions are available so that hand-wheels and actuators can be located remote from the valve.
Tight shut-off	As a standard, ValvTechnologies meets zero-leakage requirements on low-pressure air and high-pressure water.
High spring load	ValvTechnologies’ very high spring load not only assures contact between the gate and seat, but at all positions from open to close. This allows zero-leakage on hydrogen on vacuum.
Parallel discs	Unlike conventional designs where the discs are only parallel in the closed position, IsoTech® valves are designed to maintain its parallel discs from both the fully-open to the fully-closed position.
Oversized stem diameter in comparison to other PSG designs along with or in combination with the tee-slot as opposed to a threaded and pinned hanger.	Increased reliability with this durable, robust design.

At Your Service

ValvTechnologies is committed to helping our global network of customers maintain peak valve performance. With authorized repair centers around the world, ValvTechnologies can address virtually any service or repair challenge that may arise, 24 hours a day, seven days a week.

While the ValvTechnologies' Service department is headquartered in Houston, Texas, its capabilities extend globally. ValvTechnologies' experienced, factory-trained field service engineers and technicians can troubleshoot, diagnose and repair valve and actuator-related problems not only in ValvTechnologies' products, but other manufactures' as well.

With nearly 30 years experience, ValvTechnologies has not only designed the world's best high-performance valves, they also developed a system of service that maintains the performance and value of your investment, reducing total cost-of-ownership. Our range of services includes complete factory repairs, in-house or on-site, as well as maintaining an extensive stock of spare parts. In addition, our proprietary in-house ball and seat coating repairs allows the ValvTechnologies' service team to respond quickly to our customer's needs and ensure the performance and value of their severe service valve investment.

ValvTechnologies' quality policy is to provide superior, defect-free products and services to our customers that meet or exceed all legal and regulatory requirements.

To locate an authorized repair center near you, visit www.valv.com.

Zero-leakage Valve Solutions

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